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ABSTRACT

The characteristics of the Japanese academic structure are examined with attention to the evolution of institutional hierarchy, the closed academic structure, and the effects of the academic structure upon academic research. The evolution of Japan's institutional hierarchy in academics has been tightly related to factors of nationalism, bureaucracy, and degreeocracy. The academic elite, as well as various national elites, were trained and sponsored by the central government, and they have monopolized the posts of professors in their alma maters even after the founding of other imperial universities and national universities. The school from which one comes has been an evaluation criteria rather than achievement or merit. In Japan most market shares are occupied by a few universities; market shares is one of the indexes of academic nepotism. The other index of academic nepotism is the inbreeding ratio. The lack of horizontal mobility is caused by the institutional hierarchy. Academic productivity is high among scholars graduated from universities ranked at the top of the institutional hierarchy, since in the closed academic structure, the graduates of the top universities are in the most advantageous position for placement to research posts. (SW)

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THE ACADEMIC STRUCTURE IN JAPAN: INSTITUTIONAL HIERARCHY AND ACADEMIC MOBILITY

by

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Exchanges of information, scientific knowledge and scholars are, from an international perspective, important functions intrinsic to institutions of higher learning. A country's academic structure must be flexible and competitive enough to make such exchanges with other countries around the world. In this respect, the Japanese academic structure perhaps is inadequate, because it lacks sufficient interaction with foreign countries. This is shown in the fact that many Japanese students and scholars were conferred degrees in the institutions of higher learning abroad, especially in Western Europe and the United States, where they studied as students and quite a few people were recruited there as academicians; while only a few non-Japanese were accepted as students or recruited as academicians in the relevant institutions in Japan. This kind of an internationally perceptible lack of mutual exchange of students and scholars is likely to be a reflection of the inflexibility of the academic structure which was established in the 1920s as a pyramid of institutional stratification with Todai as its top and having the domestically perceptible lack of mobility of scholars and students among the various levels of institutions.

Though the post-war reform of the higher educational system was based on the American system, it has not succeeded in absorbing sufficiently the flexibility, competitiveness and open structure which the American system possesses,[1] and, as a result, it has failed to reform the institutional hierarchy. Had model-transference been realized more fully, even given the difficulties and dangers inherent in such direct transfers, the academic structure would have brought about more flexibility in institutional stratification and mobility, and hence a more ideal environment for the development of academic research.

This paper intends to clarify the characteristics of the Japanes academic

structure focusing on its institutional hierarchy and academic mobility. The basic topics include: (1) the evolution of institutional hierarchy; (2) the closed academic structure in terms of the structure of the academic marketplace and academic mobility among institutions; and (3) the effects of the academic structure upon academic research.

THE EVOLUTION OF INSTITUTIONAL HIERARCHY

The pre-war national higher educational system in Japan was characterized by extreme stratification. The institutional hierarchy among variously named sectors almost corresponded with the order of the following descriptions from top to bottom:[2]

(1) Comprehensive universities (sogo daigaku) or imperial universities (teikoku daigaku)

(2) National universities with single faculties of medicine, engineering, commerce, and literature and science (tanka daigaku)

(3) Higher schools (koto gakko)

(4) Preparatory division of university (daigaku yoka)

(5) Technical schools composed of medicine, engineering, commerce, and agriculture (senmon gakko)

(6) Teacher training schools (shihan gakko)

The old system, with its complex and diversified stratification, was discredited by the American Educational Commission of Japan during the occupation, and the new system was to be born without stratification and institutional hierarchy, integrating the various names into a single name, daigaku. But throughout the post-war period, substantial stratification has remained; and, in fact, expanded to new institutions. The new hierarchy is as follows:[3]

(1) Traditional universities, established or chartered before 1945 (daigaku)

(2) Universities recognized or established after 1948 with graduate schools (daigaku)

(3) Four-year colleges without graduate schools (daigaku)

(4) Junior colleges, mostly two-year institutions (tanki daigaku)

(5) Advanced higher technical schools (koto senmon gakko)

(6) Advanced specialized vocational schools (senshu gakko)

Among the above six types of institutions, 4, 5, and 6 were set up in 1950, 1961, and 1975, respectively, as institutions of higher education. What we should pay attention to now are types 1, 2, and 3, because these three institutions were to be categorized by the title of daigaku at the time of the first post-war reform. Under the same title, however, status distinction has been maintained among these institutions, especially between traditional universities and other institutions, mainly due to two reasons: (1) the kozasei or chair system, was institutionalized in the former universities, while in the other newly established universities the gakkamokusei or department system, was institutionalized. These distinctions survive the pre-war practice of the separation of research and teaching in universities and technical schools; and (2) all institutions with kozasei have become graduate schools and offer B.A., M.A., and Ph.D. programs, while most other institutions have not been permitted to have graduate schools. Under some gakkamokusei exist shushi koza or modified chair system, established recently for the Masters program.[4] This difference has brought about a gap in budget allocations which, as a result, had necessarily sharpened the institutional hierarchy.

The same thing should be said for the relation between the national and private sectors. According to Burton R. Clark, national patterns of academic coordination may be divided as follows:[5]

(1) national control, over a single sector of institutions

(2) national control, over several institutions sectors

(3) national and regional control, with several sectors

(4) private as well as public control, with several sectors

Considering the above divisions, Japan remained in the first type for quite a long period, since there was only a national sector which held the title of daigaku or university for about forty years. In 1877 Tokyo Daigaku (Todai), the first national university, was established;[6] it changed its name to Teikoku Daigaku (Imperial University) in 1886, and to Tokyo Teikoku Daigaku in 1897 when Kyoto Teikoku Daigaku (Kyodai) was established. These two and a few other imperial universities existed until the promulgation of the University Ordinance of 1918 which gave legal recognition to some private universities. By 1920 seven private universities were chartered by the government. These were Keio, Waseda, Hosei, Chuo, Nihon, Kokugakuin, and Doshisha (See Table 1). From that time the private sector began to develop in terms of the number of institutions and students.[7] Thus the national pattern of coordination promptly shifted from the first type to the fourth type. Despite the quantitative development, however, private universities have never gained the prestige of national universities, nor their secure financial standing, as have American private universities such as Harvard, Yale, and Stanford.[8] In this sense, the first type of control, dominant for nearly a half of modern higher educational history, has substantially affected academic structure even after the transformation took place.[9]

The most important factor in the formation of institutional hierarchy was the nationalistic policy for higher education of the Meiji government. Confronted with the problem of modernizing the state under the cultural shock and military menaces in the international situation, the government's preoccupation was reflected in the slogan fukoku kyohei or "a wealthy nation, a strong army."[10]

Table 1 View of Universities by the Chartered Date and Faculties, 1940

Universities (sectors)	Date of charter	Name of faculties
(Imperial Universities)		
Tokyo	1886	L M Eng Lit S A E
Kyoto	1897	L M Eng Lit S A E
Tohoku	1907	LL M Eng S
Kyushu	1910	LL M Eng S A
Hokkaido	1918	M Eng S A
Osaka	1931	M Eng S
Nagoya	1939	M Eng S
(National Universities)		
Tokyo Shoka	1920	C
Niigata Ika	1922	M
Okayama Ika	1922	M
Chiba Ika	1923	M
Kanazawa Ika	1923	M
Nagasaki Ika	1923	M
Kumamoto Ika	1929	M
Tokyo Kogyo	1929	Eng
Kobe Shoka	1929	C
Tokyo Bunrika	1929	LS
Hiroshima Bunrika	1929	LS
Jingukogakkan	1940	
(Public Universities)		
Kyoto Furitsu Ika	1921	M
Osaka Shoka	1928	C
(Private Universities)		
Keio	1920	L M Lit E
Waseda	1920	L Lit SEng PE C
Hosei	1920	LL E
Chuo	1920	L E C
Nihon	1920	LL Eng CE
Kokugakuin	1920	Lit
Doshisha	1920	L Lit
Tokyojikeikai Ika	1921	M
Ryukoku	1922	Lit
Otani	1922	Lit
Senshu	1922	M E
Rikkyo	1922	Lit
Ritsumeikan	1922	LE
Kansai	1922	LL
Takushoku	1922	C
Rissho	1924	Lit
Komazawa	1925	Lit
Tokyo Norgo	1925	A
Nippon Ika	1926	M
Koyasan	1926	Lit
Taisho	1926	Lit
Toyo	1928	Lit
Jochi	1928	Lit
Kanseigakuin	1932	LL CE
Fujiwara Kogyo	1939	Eng

Abbreviation: L...Law, LL...Law and Literature, LE...Law and Economics M...Medicine, Eng...Engineering, Lit...Literature, S...Science, A...Agriculture, E...Economics, EC...Economics and Commerce, C...Commerce, LS...Literature and Science, PE...Politics and Economic CE...Commerce and Economics, SEng ... Science and Engineering

Source: Tokiomi Kaigo, ed., Nihon Kindai Kyoikushi Jiten, Heibonsha Publishing Co., 1971, p. 159. Monbusho, Gakusei 100nenshi, Shiryo-hen Teikoku Chihogakkai Publishing Co., 1972, p.p. 502-710.

In the modernization process of an under-developed country the central government had to develop a bureaucratic organization faster than anything else. No organization was considered more suitable than the university by the government to train and educate students who would form the national elite, particularly as bureaucrats. Accordingly, there necessarily existed a tight relationship between the government and the university. The faculty of law of the Tokyo Imperial University, as a typical example, was reserved, guaranteed, and given prestige and privileges by the government to train the elite bureaucrats. The central faculty was not Literature or Science, but Law, which has produced bureaucrats in high positions.[11] This fact suggests that the prestige of the Tokyo Imperial University was to be maintained in great part based on the faculty of law and not based on academic research like German universities and American graduate schools. This kind of privilege was later given to the faculty of law of Kyoto Imperial University, while the other imperial universities could have no such orthodox faculty of law but only modified ones (faculty of law and literature) (See Table 1). It is obvious that the institutional hierarchy was introduced intentionally even in the imperial universities as well as in the national and private sectors based on the nationalistic perspective.

The training and education of university professors was also carried out deliberately by the government in the nationlistic perspective. Early in the Meiji era, elite academics were sent to the major western countries to pursue their higher education studies, replacing the non-Japanese professors in professorship in Teikoku Daigaku when they came back from abroad. A very closed system has been established since that time without recruiting any foreign scholars into national universities, though the custom of sending students abroad has been maintained in order to absorb scientific knowledge and

technology. This has resulted partly in the establishment of the system responsible for self-production and maintenance of professors and partly in establishment of a system closed to foreign countries.

The closed system established in the international context has been extended in the domestic context as well. The domestic phenomenon that academics trained in the Teikoku Daigaku monopolized the seats of professorship in the alma mater, and went out to the academic marketplace in the other imperial and national universities was established later. As a result, the oldest institution with the highest prestige controlled the academic marketplace by possessing a number of keiretsuko or dependent schools, while other less prestigious universities came to follow this pattern. This kind of structure was apparently formed politically and artificially by the government by giving a nationalistic and centralized character, as well as enormous prestige, to the initially established government university.

Related to nationalism, gakurekishugi (school-career-ism or "degreeocracy") has been an important factor with regard to the formation of the institutional hierarchy.[12] The Tokyo Imperial University was established by the government to foster a centralized society, so its prestige had to be far greater than that of any universities which followed it. The steeply-graded hierarchy with Todai at its top was clearly perceived, because Todai graduates occupied elite positions in Japanese society. If we analyze the higher civil service, for example, in 1937, of 1,264 higher civil servants, 74% were Todai graduates.[13] As late as 1976, this was still the case, when out of 1,236 who passed the advanced examination for civil servants, 461 or 37.3% were Todai graduates.[14] As for section chiefs and higher positions in twenty main departments and bureaus, 1,001 or 62.4% were Todai graduates; for bureau chiefs and higher positions, 130 or 81.8% were Todai graduates; and for assistant secretaries,

18 or 90% were Todai graduates. Moreover, the graduates of Todai and the other imperial universities were given higher salaries from the start of their employment in the firms than graduates of other schools, as is shown in the pre-war big firms. These facts result in a parallel relation between institutional hierarchy and real society. These facts also show the existence of a merit-oriented society where the holder of the gakureki (literally school career, diploma) is given the advantage in the process of recruitment of people in the bureaucratic organizations such as big business and higher civil servants. Since recruiting excellent manpower based on merit or ability was an essential principle in the process of modernization, appreciation of the diploma put weight on individual achievement instead of ascriptive factors such as estate, wealth, sex, age, family background, etc. This is obviously a progressive and rational way of determining individual social mobility. Accordingly, the emergence of a qualification society means that modernization has been accomplished to some extent.

Nevertheless, what Ronald Dore called "diploma disease,"[15] turned out to become degreeocracy, especially since the stage of mass higher education emerged in the 1960's when the proportion of university students in the same age level exceeded fifteen percent. In this stage students have increasingly become oriented to get a diploma as a passport and label instead of paying any attention to the content of education they actually receive. The diploma has become but an index of skills in taking the entrance examination and the cram abilities of students, and even more, of parents' socio-economic status instead of the real achievement of students. Obtaining the diploma has become indispensable in the competition for upward social mobility, and this competition lasts until a candidate is placed in a certain institution. Once placed somewhere his future career is almost decided because the degreeocratic society

has a solid correspondence between the institutional hierarchy and the business or civil service worlds; because university students lack mobility among institutions, as shown in the fact that they scarcely have more than two alma maters like American students;[16] and because shushin koyosei (life-long employment system) makes employees immobile from the firm to which they are originally recruited.[17] Therefore, the most important time in one's life comes with entrance examinations at the age of eighteen when placement is carried out within the institutional hierarchy based on so-called hensachi or deviation scale in statistics,[18] and hence his life-long career is automatically decided. Because of these reasons, an unusual competition occurs for entrance examinations among young people.

The analysis thus far suggests that the academic institutional hierarchy has brought about degreeocracy and a degreeocratic society, and vice versa. The term of gakubatsu (academic nepotism), one of the indexes of degreeocracy, probably most adequately refers to the trait of Japanese society epitomized by the tight relationship between specific institutions and big business and government bureaucracy.[19] The closed structure of Japanese society can be explained in terms of a nepotism which is clearly observable not only in general society but in the academic sub-society.

THE CLOSED ACADEMIC STRUCTURE

Structure of the Academic Marketplace

Japanese academic structure has quite a special trait in that specific universities tend to monopolize academic posts with their graduates. An international comparison was made in 1969 of the structure of the academic marketplace among major western countries including the United States, the United Kingdom, Germany, France, and Italy.[20] According to this data, France is the

country with the highest proportion of market share, a form of academic nepotism, by a single institution: the graduates of Paris University occupy 53% of all posts in the academic marketplace (See Table 2). The next typical country is the United Kingdom where three big universities -- Oxford, Cambridge, and London -- together occupy 58%. The United Kingdom has three towering powers while France has a single towering power. In contrast to these two countries, however, Italy, Germany, and the United States do not have any institutions with such exceedingly big powers; even the most powerful institution in each country -- Rome, München, Chicago -- has only 10% or so in the market share. In other words, these three countries have a tendency toward decentralization in the shape of market share, while France and the United Kingdom have a tendency toward centralization.

According to a survey made by Michiya Shimbori on the academic marketplace in Japan,[21] out of 31,934 academicians including professors, associate professors, and lecturers, 7,935 or 24.8% were graduates of Todai, and 4,269 or 13.4% were graduates of Kyodai (See Table 2, Japan). Thus there exist two towering universities. Todai's market share exceeds that of any single partner in England's big-three and is ranked in second place as a single institution, following Paris. Akamon (literally "red gate," Todai) ruling over Japan is ruling over the academic marketplace as well.

Among eleven faculties analyzed in more detail,[22] Todai's rank is first place in all except two, the faculty of education and the faculty of arts. The highest share (38%) is seen in the faculty of general education, and the lowest (9%), in the faculty of arts (See Table 3). The reason why Tokyo Geijutsu University (Tokyo University of Arts) records 38.6% and exceeds Todai in its share of the faculty of arts is that no faculty of arts existed in the pre-war period and the teachers related to this field were trained

Table 2 Comparison of the market-share in the academic marketplace by school of graduate between six countries, 1969

JAPAN (1965)	
School	Share
Tokyo	24.8
Kyoto	13.4
Tohoku	5.5
Tokyo Kyoiku	5.0
Kyushu	4.6
Hokkaido	3.5
Waseda	3.0
Hiroshima	2.9
Osaka	2.7
(foreign)	2.2
Tokyo Geijutsu	2.2
Keio	2.1
Hitotsubashi	1.6
Nihon	1.5
Nagoya	1.4
Tokyo Kogyo	1.4
Others	22.1
Total (=100%)	31934

U.K.	
School	Share
Oxford	19.4
Cambridge	19.4
London	19.4
Birmingham	5.6
Glasgow	3.9
Edinburgh	2.6
Manchester	2.5
Sheffield	2.2
Liverpool	1.7
Bristol	1.3
Sydney	1.3
St. Andrews	0.8
Leeds	0.8
Others	17.8
Total (=100%)	232

France	
School	Share
Paris	53.6
Montpellier	7.3
Toulouse	6.0
Lyon	4.6
Lille	4.0
Strasbourg	3.3
Clermont-Ferrand	2.6
Grenoble	2.0
Rennes	2.0
Nancy	1.3
Besançon	1.3
Chicago	1.3
Aix-Marseille	1.3
Others	9.4
Total (=100%)	151

U.S.A.	
School	Share
Chicago	6.6
Harvard	6.4
Columbia	5.4
California	4.4
Michigan	3.7
Yale	3.7
Minnesota	3.4
N.Y.U.	2.7
Wisconsin	2.6
Pennsylvania	2.6
Cornell	2.4
Illinois	1.9
Ohio State	1.7
North Carolina	1.7
Princeton	1.0
Others	47.2
Total (=100%)	701

Germany	
School	Share
München	8.6
Berlin (Freie)	5.6
Tübingen	5.6
Freiburg	5.6
Hamburg	5.1
Bonn	5.1
Heiderberg	5.1
Göttingen	5.1
Kiel	4.1
Marburg	3.6
Hannover Tech.	3.6
Leipzig	3.6
Breslau	3.6
Köln	2.5
Berlin Tech.	2.5
Königsberg	2.5
Halle	2.0
Others	26.2
Total (=100%)	197

Italy	
School	Share
Rome	11.2
Pavia	9.0
Milan	9.0
Florence	5.6
Padua	5.6
Bologna	4.5
Modena	3.4
Milan (Catholic)	3.4
Palermo	3.4
Torino	2.2
Catania	2.2
Siena	2.2
Perugia	2.2
Harvard	2.2
Others	28.1
Total (=100%)	89

Source: Japan; Michiya Shimbori, Nihon no Daigakukyoju-shijo, Toyokan Publishing Co., 1965, p. 49. Other countries; Michiya Shimbori and Akira Arimoto, "Daigakukyoju no Keirekigata no Kokusaihikaku" in Shakaigaku Hyoron, Vol. 19, No. 3, 1969.

Table 3 The market-share in the academic marketplace of eleven faculties by school of graduation, 1965

LITERATURE	
School	Share
Tokyo	26.8
Kyoto	14.0
(foreign)	10.0
Waseda	5.4
Tokyo Kyoiku	4.0
Kyushu	3.4
Tohoku	3.1
Hiroshima	2.6
Keio	2.5
Doshisha	1.8
Others	26.4
Total(=100%)	3649

ECONOMICS	
School	Share
Tokyo	22.3
Kyoto	10.6
Hitotsubashi	10.4
Waseda	6.5
Kyushu	5.6
Keio	4.8
Kobe	4.0
(foreign)	3.1
Tohoku	2.8
Meiji	2.5
Others	27.4
Total(=100%)	3456

ARTS	
School	Share
Tokyo Geijutsu	38.6
Tokyo	9.3
(foreign)	5.1
Kunitachi Ongaku	4.6
Nihon	3.9
Kyoto	3.8
Waseda	2.2
Tokyo Kyoiku	2.1
Musashino Ongaku	2.1
Joshi Bijutsu	1.6
Others	26.7
Total(100%)	818

AGRICULTURE	
School	Share
Tokyo	31.0
Kyoto	20.5
Hokkaido	15.8
Kyushu	9.4
Tohoku	2.2
Taihoku	1.3
Tokyo Kyoiku	1.2
Nihon	1.2
Tokyo Nogyo	1.2
Chiba	0.7
Others	15.5
Total(=100%)	3129

EDUCATION	
School	Share
Tokyo Kyoiku	21.2
Tokyo	14.7
Kyoto	10.0
Hiroshima	10.0
Tokyo Geijutsu	6.8
Tohoku	5.4
Kyusyu	3.2
Hokkaido	3.0
Waseda	2.0
Nihon Taiku	1.7
Others	22.0
Total(=100%)	4659

GENERAL EDUCATION	
School	Share
Tokyo	37.8
Kyoto	16.0
Tohoku	8.3
Kyushu	5.3
Tokyo Kyoiku	4.3
Hiroshima	3.4
(foreign)	2.5
Osaka	2.0
Nihon	1.9
Nagoya	1.4
Others	17.1
Total(=100%)	3389

SCIENCE	
School	Share
Tokyo	37.0
Kyoto	16.0
Tohoku	8.3
Kyushu	5.3
Tokyo Kyoiku	4.3
Hiroshima	3.4
(foreign)	2.5
Osaka	2.0
Nihon	1.9
Nagoya	1.4
Others	17.9
Toatal(=100%)	1611

MEDICINE	
School	Share
Tokyo	18.4
Kyoto	10.7
Kyushu	8.0
Tohoku	6.4
Osaka	4.9
Keio	4.0
Nagoya	2.9
Chiba	2.8
Nihon	2.5
Jikeikai	2.4
Others	37.0
Total(=100%)	5043

LAW	
School	Share
Tokyo	30.1
Kyoto	16.4
Keio	9.4
Waseda	7.7
Chuo	6.3
Doshisha	4.1
Kyusyu	3.8
Nihon	2.7
Tohoku	2.4
Meiji	2.2
Others	14.9
Total(=100%)	982

HOME ECONOMICS	
School	Share
Tokyo	18.6
Kyoto	12.6
Nihon Joshi	5.4
Tokyo Kyoiku	4.9
Ochanomizu	4.2
Kyushu	3.5
(foreign)	3.4
Tokyo Geijutsu	3.1
Waseda	3.0
Nara Joshi	2.9
Others	39.4
Total(=100%)	771

ENGINEERING	
School	Share
Tokyo	26.9
Kyoto	18.3
Tohoku	9.1
Tokyo Kogyo	6.9
Waseda	5.4
Osaka	4.7
Hokkaido	4.2
Kyushu	2.9
Nagoya	2.0
Nihon	1.9
Others	16.7
Total (=100%)	5327

Source: Michiya Shimbori, Nihon no Daigakukyoju-shijo, op. cit. p.53.

mostly in the Tokyo School of Music and the Tokyo School of Art, both of which were later united into the Tokyo University of Arts. If there are no institutions to compete with each other a single institution is likely to monopolize the market, as the above example indicates. Similarly, Tokyo Kyoiku University (now, Tsukuba University), as well as Hiroshima University, developed from Bunrika Daigaku (University of Literature and Science); Hitotsubashi University developed from Shoka Daigaku (University of Commerce); and Tokyo Kogyo University (Tokyo Institute of Technology) developed from Kogyo Daigaku (University of Engineering). Each are still strong in each field. In spite of this condition, however, it is very clear that Todai has an overwhelmingly strong power in the overall academic profession.

Table 4-1 shows the top fifteen universities in production of university presidents in 1975.[23] Out of 411 universities, including 80 national, 33 public, and 298 private, 27.5% were Todai graduates, and 14.6% were Kyodai graduates. The total share of these two universities thus reaches 42.1%. This trend can be recognized not only in the national sector but also in the private sector. Of the fifteen-best, only Waseda (2.0%) and Nihon (1.0%) are private universities, and yet, only 2.5% of the presidencies in the national sector were occupied by graduates of private universities, while 66.7% of the presidencies in the private sector were occupied by the graduates of national universities (See Table 4-2).

Data thus far suggest that the general state of the academic marketplace in Japan has fairly special patterns compared with other main countries. This is especially true of the United States. In fact, there exists a great deal of differences between Japan and the United States if we compare the two countries in greater detail in the field of sociology, for example. The reason for choosing sociology as typical of the general pattern is mostly due

Table 4-1 University presidents by school of graduation, 1975

school of graduation	president-market by sectors national	public	private	total	market share (%)
Tokyo	20	6	87	113	27.5
Kyoto	14	11	35	60	14.6
Tohoku	6		12	18	4.4
Kyushu	4	4	8	16	3.9
Hokkaido	8	3	3	14	3.4
Tokyo Kyoiku	2	1	9	12	2.9
Hiroshima	4		6	10	2.4
Osaka	2	1	5	8	1.9
Waseda			8	8	1.9
Tokyo Kogyo	2		5	7	1.7
Kobe	2		3	5	1.2
Nagoya	1		4	5	1.2
Tokyo Geijutsu	1		3	4	1.0
Hitotsubashi		1	3	4	1.0
Nihon			4	4	1.0
Others	14	6	103	123	29.9
Total	80	33	298	411	99.9

Source; See Footnotes 23.

Table 4-2 University presidents by school sector of graduation and president market by sectors, 1975

school sector of graduation	president-market by sectors national	public	private	total	market share (%)
national	76	31	198	305	74.2
public		1	2	3	0.7
private	2		68	70	17.0
foreign	1	1	22	24	5.8
D.K.	1		8	9	2.2
Total	80	33	298	411	99.9

Source; See Footnotes 23.

to accessibility of data. Since our international survey in 1969, no detailed case studies have been made in Japan, despite their necessity, because of difficulty of obtaining adequate data abroad.

In order to investigate the academic marketplace of sociology in the United States, 114 graduate schools, all of which have doctoral courses in sociology, are analyzed with data from the Guide to Graduate Departments of Sociology edited by the American Sociological Association in 1975. The total number of sociologists included in these schools is 2,053, consisting of 755 professors, 507 associate professors, and 791 assistant professors (including lecturers). The market share is high at the following institutions: Chicago, 8.4%, Harvard, 5.6%, Michigan, 5.2%, Columbia, 5.0%, Wisconsin, 4.9%, Berkeley, 4.7%, Cornell, 3.6%, North Carolina, 3.1%, Ohio State, 3.1%, Minnesota, 3.0%, Washington (Seattle), 2.9%, and Yale, 2.3% (See Table 5). Among the best twelve, Chicago's share is rather high, but it is less than ten percent and there is not a very big gap between Chicago and the other strong institutions. This fact reveals substantial equalization and decentralization of power.

Compared to this, the Japanese market is too small to get equivalent data; in the same year, 1975, there were only 25 graduate schools which had doctoral courses, approximately one fifth the number in the United States.[24] Here, we deal with 37 graduate schools which have masters courses. The total number of sociologists included in these schools is 287, of which 170 are professors, 87 associate professors, and 30 lecturers.[25] The top twelve in the market share are: Todai, 29.3%, Kyodai, 13.6%, Waseda, 5.9%, Nihon, 4.9%, Keio, 4.2%, Doshisha, 3.5%, Hitotsubashi, 3.1%, Toyo, 2.4%, Nagoya, Kanseigakuin, Kyushu, each 2.1%.

The accumulated share of the top twelve is 51.7% in the United States

Table 5-1 Comparison of the best-twelve between U.S.A. and Japan in the Share of Academic Marketplace of Sociology by School of Graduation, 1975

U.S.A.			JAPAN		
School	Number	%	School	Number	%
Chicago	172	8.4	Tokyo	84	29.3
Harvard	114	5.6	Kyoto	39	13.6
Michigan	107	5.2	Tohoku	20	7.0
Columbia	103	5.0	Waseda	17	5.9
Wisconsin	101	4.9	Nihon	14	4.9
Berkeley	97	4.7	Keio	12	4.2
Cornell	73	3.6	Doshisha	10	3.5
North Carolina	63	3.1	Hitotsubashi	9	3.1
Ohio State	63	3.1	Toyo	7	2.4
Minnesota	61	3.0	Nagoya	6	2.1
Washington*	60	2.9	Kanseigakuin	6	2.1
Yale	48	2.3	Kyushu	6	2.1
(Total)	1,062	51.7	(Total)	230	80.1
Others	991	48.3	Others	57	19.9
Total	2,053	100.0	Total	287	100.0

Note; * the University of Washington

Table 5-2 Inbreeding ratio of the best-twelve of Table 5-1

U.S.A.				JAPAN			
School	A	B	C	School	A	B	C
Harvard	12	4	33.3	Tokyo	8	8	100.0
Chicago	13	4	30.8	Tohoku	5	5	100.0
Michigan	29	7	24.1	Keio	7	6	85.7
Berkeley	25	6	24.0	Nihon	14	12	85.7
Cornell	14	3	21.4	Waseda	9	7	77.8
Columbia	17	3	17.7	Kyoto	4	3	75.0
Ohio State	28	4	14.3	Hitotsubashi	14	8	57.1
Wisconsin	57	6	10.5	Doshisha	9	5	55.5
North Carolina	21	2	9.5	Nagoya	4	2	50.0
Minnesota	32	3	9.4	Kyushu	4	2	50.0
Washington	27	2	7.4	Kanseigakuin	8	2	25.0
Yale	16	1	6.3	Toyo	15	1	6.7
Total(Average)	291	45	15.5	Total(Average)	119	63	52.9

Note: A: numbers of faculty, B: numbers of alumni, C: Inbreeding ratio (=B/A X 100).

and 80.1% in Japan. This difference is probably due in part to the market-scale but certainly in part to the strong powers of specific universities in Japan. The total share of the big-three in Japan account for almost half of the entire market (49.9%), nearly equivalent to the total share of the top twelve in the United States (51.7%). Todai has four times the share that Chicago has. To correspond to Todai we need to aggregate the total power of Chicago, Harvard, Michigan, Columbia, and Wisconsin, and to correspond to Todai plus Kyodai, Berkeley, Cornell, and North Carolim must be added. In the United States the market share and hence market power is divided among several major institutions, while in the Japanese counterpart it is apparently concentrated in the hands of a few specific institutions.

Academic Mobility Among Institutions

In the degreeocratic society the diploma is usually expected to serve as a passport or qualification to enter professional occupations and the graduates of the specific institutions have strong powers in various elite fields. In this respect, the United States is, without a doubt, a degree-ocratic society. George W. Pierson, for example, has demonstrated that graduates of Harvard, Yale, and Princeton have become leaders in various fields in the United States.[26] Above all, academic society shows the most vivid character of degreeocratic society, because it has become an essential process for one to take a degree, especially the Ph.D., to become a professional academic. In addition, the graduates of powerful institutions are likely to control the academic marketplace. As Bernard Berelson pointed out, a great share of the marketplace was occupied by doctorates of the top twelve universities.[27] Both the United States and Japan have this kind of profile and thus they show similar academic structures with regard to the predominance of

specific universities. However, the content of academic structure is quite different between the two countries, if we pay attention to dokeihanshoku (inbreeding), another form of academic nepotism.

There is a rule in Japan. About fifteen years after the foundation of a university, more than forty-percent of the posts of associate professor are occupied by its graduates. Likewise, about thirty years after, about a third of the posts of full professors and about fifty years after almost ninety-percent of all professors are occupied by the alumni.[28] Thus, the old and traditional universities have high inbreeding ratios. In other words, the universities with high inbreeding ratios are prestigious and excellent. According to this rule, the inbreeding ratio should be very high in Todai and Kyodai, and in fact, in 1975 it was 90.0% in Todai and 86.0% in Kyodai.[29] The faculty of law, the most prestigious faculty in each university, was especially marked "perfect inbreeding". Needless to say, other universities are trying to catch up with these most prestigious faculties and universities in the pattern of inbreeding.

What is the reason for shutting out the graduates of other universities? If there were no specialists in the given fields except for the graduates of the alma mater, inbreeding would be inevitable. But there are quite a few graduate schools which produce enough specialists, even too many, recently supplying many hakase ronin (excess-doctors) to the marketplace.[30] If so, why is perfect inbreeding necessary? One of the reasons lies in the closed structure of kozasei or the chair system. The chair system was first introduced into Teikoku Daigaku in 1883, imitating the German system, and its main purpose was to train academic successors who might devote themeselves to higher learning in a chair. As pointed out by Ikuo Amano in his study on the origin of the chair system in Todai, the introduction of this system had

great significance in training the successors of academicians as well as in establishing fields of specialization.[31] The Meiji government tried to elevate academic levels to those of advanced countries and wanted to establish comparable academic disciplines staffed by Japanese professors themselves, without relying on non-Japanese teachers. Though this goal was important, and difficult to achieve, the establishment of a chair system in which academicians would be trained and to which they would commit themselves was carried out at last. On the one hand, the chair system was to be suitable to the importation of ideas, disciplines, and particularly packages of knowledge already developed in the advanced countries, by translating them into Japanese. On the other hand, it has become a sort of fortress to protect the academic production and privilege of incumbents from outside the chair. In this context, inbreeding was to be encouraged as soon as the chair system was institutionalized. Inside the chair system inbreeding was to be strengthened by the training of students just like the training of apprentices in the feudal guild; and outside the chair it was to be implanted into other universities by exporting the graduates in the newly developing academic marketplace. When the academic market was still small in scale and the chair was strong enough in producing graduates, the academic market was likely to be controlled by this single chair.

In 1975 there were 156 professors in the faculties of law of the seven former imperial universities.[32] Of these, almost all (96.8%) were graduates of these seven universities themselves (See Table 6). It is manifest that the market is extremely closed for the other national, public, and private universities. Todai, with a perfect inbreeding ratio as already described, occupied 55.8% share of the market, controlling Tohoku, Hokkaido, and Nagoya, as its keiretsuko or dependent schools. Similarly, Kyodai, with a perfect

Table 6 Alma Maters of Full-Professors in the Faculties of Law of the Former Imperial Universities, 1975

alma mater / Universities	Tokyo	Kyoto	Tohoku	Kyushu	Hokkaido	Osaka	Nagoya	Kansai	Doshisha	Hitotsu-bashi	Okayama	Keijo	Total
Tokyo	38												38
Kyoto		27											27
Tohoku	15		4	2									21
Kyushu	4	1		12			1						18
Hokkaido	14		2		3			1					20
Osaka	3	7	1			3			1				15
Nagoya	13	1								1	1	1	17
Total	87	36	7	14	3	3	1	1	1	1	1	1	156
				151						5			

Table 7 Alma Maters of Full-Professors in the Faculties of Education of the Former Imperial Universities, 1975

alma mater / Universities	Tokyo	Kyoto	Tohoku	Kyushu	Hokkaido	Osaka	Nagoya	Tokyo Kyoiku	Hiroshima	Tokyo Taiku	Hokkaido Kyoiku	Total
Tokyo	13				1							14
Kyoto	2	8	1									11
Tohoku	4		4						1			9
Kyushu	3			3				2	2			10
Hokkaido	4				2			1		1	2	10
Osaka	9	2				1						12
Nagoya	7		2	1			1	2				13
Total	42	10	7	4	3	1	1	5	3	1	2	79
				68						11		

inbreeding ratio as well, held a 23.1% share, controlling Osaka as its dependent school. Such relationships of independent and dependent universities, or of controller and colony, reflect the existence of institutional hierarchy in the market. There is naturally no mutual exchange of academic men between two controlling towers. One can see in this fact a certain logic of the chair system -- that all persons with heterogeneous background divorced from the given chair are to be completely shut out.

The faculty of law, discussed above, was established in the old system of higher education and hence institutional hierarchy, which was made in the pre-war period, has been expanded in the post-war period. It provides us with a good example of the correlation between the chair system and the phenomenon of inbreeding and colonization. On the contrary, the faculty of education, which was newly set up in the post-war period, has a short and therefore different history. One piece of evidence is that Tokyo Kyoiku exceeds Todai in the market share, as discussed earlier. Within the former imperial universities, nevertheless, Todai is stronger than any other, and little mutual interaction is between former imperial and other universities as well as between national and private universities (See Table 7). In other words, institutional hierarchy exists strictly in the field of education, even though it is not so steep as in the field of law. To describe in more detail, almost ninety percent (86.1%) of the market share is occupied by the graduates of former imperial universities, with 53.2% by Todai and 12.7% by Kyodai graduates.[33] Inbreeding ratios are 92.8% in Todai and 72.7% in Kyodai, and there is no mutual mobility but only a bit of one-way mobility of graduates from Todai to Kyodai. That is, there is no horizontal mobility between the two towers, only vertical mobility. Osaka, Nagoya, and Hokkaido are under the control of Todai, and Tohoku and Kyushu are on their way to

independence. It is not surprising that little mutual interaction occurs between imperial and national groups, since even within the imperial group no mutual interaction occurs.

The examples dealt with thus far clearly explain why major universities founded earlier and located at the top of the hierarchy are prominent in the inbreeding ratio and in possession of colonies, while minor universities founded later desire to become independent, increasing the inbreeding ratio.

The situation in the field of sociology is not exceptional from the general view described above. Let us see how the inbreeding ratios are high among the universities ranked within the top-twelve in the market share in the field of sociology: Todai and Tohoku, 100%; Nihon and Keio, 85.7%; Waseda and Kyodai, 70-plus%, etc. Only Toyo, 6.7%, is exceptionally low because it is under the control of Todai. The average (mean) ratio of the twelve-best is 52.9% (See Table 5-2).

Next, let us note the parallel inbreeding ratios in the United States. The average ratio of the twelve-best is as low as 15.5%, and even Harvard, which has the highest ratio of all, marks only 33.3%. It is striking that the prominent universities such as Harvard, Chicago, Michigan, Berkeley, for example, pursue far less inbreeding than the Japanese major universities.[34] What this result suggests is that the United States has far more academic mobility among institutions in accordance with the custom of limiting inbreeding as much as possible within each institution. Furthermore, mobility occurs very frequently among major institutions without creating controller-subordinate relationships. This is not vertical mobility but horizontal mobility.

In Japan, the relation between the national and private sectors is less equivalent, to the extent that the latter is completely subordinate to the

former. As for the twelve-best, for instance, all of the thirty-nine posts of the national sector are occupied by their own graduates without offering any posts for the graduates of the private sector, while as much as 37.1% of sixty-two posts of the private sector are occupied by the graduates of the national sector.

In the United States, on the other hand, among the twelve-best, 72.2% of seventy-two posts in the private sector are occupied by their own graduates, while 52.1% of 219 posts in the public sector are occupied by their own graduates. Thus, mutual interaction between the two sectors is frequently occuring, although the private sector is exclusive toward other sectors to some extent.

What we should notice now is that the academic structure in the United States has not only several major departments and universities as centers of learning, but frequently there is academic mobility among them. In this structure, a constant fluctuation of institutional hierarchy occurs, as one can recognize from a series of surveys. The survey of the American Council on Education, for example, assesses the quality of departments and universities, finding that those which succeed in recruiting the excellent scholars might elevate their academic standard and hence their institutional status in the hierarchy, while if they fail to do so they might go down in the hierarchy.[35] Therefore, all institutions compete with other institutions for more quality, prestige, and upward mobility. This is an open academic structure oriented to department and university evolution. Hence, academic research is affected by the exchange of scholars with heterogeneous backgrounds among departments, universities, sectors, and various fields of higher learning.[36]

THE EFFECTS OF ACADEMIC STRUCTURE UPON ACADEMIC RESEARCH

What kind of effects might difference in academic structure have upon academic research and productivity? Probably the sociological factors such as system, organization, and structure have a great impact on the scholars involved in the production of scientific knowledge and research activity.[37] The open structure encourages research and evaluates achievements rather than ascriptions. It also orients the academic environment to stimulating competitive research activity among many scholars without giving privileges to a few scholars in specific institutions ranked in the top of a close institutional hierarchy. In this respect, what is the tendency of academic research in the closed academic structure? Until recently no surveys have been made on the correlation between universities and academic productivity except for a few case studies.

According to one of the case studies made by Michiya Shimbori on academic productivity during a five-year period, of 661 professors in the field of education, it was not the universities from which the scholars graduated that mainly defined academic productivity.[38] There is no correlation between two factors, although the Todai graduates have the strongest social force in that they are the members of academic councils, trustees of academic meetings, editors of dictionaries related to education, supervisors of textbooks for elementary and secondary schools, etc. Those who have strong social power have high academic productivity. In addition, those who belong to the graduate schools in Tokyo and other larger cities also have much more productivity than other scholars. These facts mean that achievement or academic productivity is defined mostly by placement in prestigeous institutions rather than by alma mater, and above all, that the posts of professors of Todai are most advantageous in producing this achievement.

There is a study of thirty-three scholars who have contributed more than four articles to the Kyoiku Shakaigaku Kenkyu (The Journal of Educational Sociology) edited by the Japan Society for the Study of Educational Sociology.[39] Of these outstanding scholars, at least in terms of quantity of articles, 45.3% are Todai graduates, almost all of whom (93.3%) belong to graduate schools in Tokyo and other large cities. As discussed already, Todai's hegemony is of prominence in the academic marketplace, so that it is easy for this controlling tower to place its graduates in certain graduate schools under its control in Tokyo and other large cities. In an academic structure where achievement is mostly defined by institutions to which scholars are placed, the most productive scholars are to be found among the graduates of specific universities controlling the market. And these graduates stand in places in the sun that gives the impression that they are excellent in achievement. The above findings, however, suggest that achievement or academic productivity will be encouraged and promoted without fail among scholars who are graduated from other major and minor institutions, if they have the opportunity of being placed in equivalent posts. In fact, of eighteen outstanding scholars other than Todai graduates, fourteen scholars (77.8%) are placed in the almost equivalent posts. Considering these results, theoretically it is possible to provide more equivalent posts to the graduates of various schools by changing the academic structure from a more closed to a more open type, and at least by controlling the inbreeding ratio, the barrier to academic mobility, perhaps to an extent comparable to the United States.

In the present structure, the opportunity for academic research is largely opened to some favorable scholars, because the present academic structure is a miniature of the structure of degreeocratic society in which substantial placement of scholars in the institutional hierarchy is mostly made

in the entrance examination at the age of eighteen! Once placed somewhere in the institutional hierarchy, inter-institutional mobility hardly occurs because of the lack of substantial separation of undergraduate faculties and graduate schools, the unique ways of training of students in the chair system,[40] and the control of the academic marketplace by specific universities. Those who are selected at the eighteen-plus are to be sponsored through their life-long careers, even though there is a great deal of risk that those students will never become excellent and productive scholars in the future. These would-be-academics will constantly and decisively get the advantage in the following points: examinations including the entrance examination in the graduate school (mostly closed to the graduates of other colleges and universities);[41] favorable conditions with regard to contact with outstanding professors, research facilities, and Hallo effects; reserved seats for the major institutions; protection by many alumni in publishing papers and gate keeper privileges of alumni in the academic journals, etc.

As far as the problem of academic productivity is concerned within the country, the academic structure discussed thus far seems to be effective to a considerable degree in training the productive academicians. But it is restricted within a small world. If we consider this problem in an international perspective, the existing academic structure does not seem to have brought about enough productivity. Japan has never become a major center of learning in the world,[42] and Japanese scholars have probably not contributed sufficiently to the international academic world in various fields of study.[43] Japan has also been relatively unproductive in its proportion of Nobel prize winners in the fields of medical and natural sciences.[44] Certainly, stagnancy so far implies indefinite possibilities for development and, of course, Japan must gradually promote its international contribution in academic research

and scientific development in the future.[45] But to do so, its academic structure must be restructured so as to have more flexibility in institutional stratification and at least in academic mobility.

CONCLUSIONS

1.) The evolution of Japan's institutionally-hierarchical academic structure, which has developed since the Meiji period, was tightly related to factors of nationalism, bureaucracy, and degreeocracy. The academic elite, as well as various other national elites, were deliberately trained and sponsored in the Teikoku Daigaku by the central government. Monopolizing the posts of professors in their alma maters, graduates constantly controlled the academic marketplace, even after the founding of other imperial universities and national universities. The faculty of law, above all, had the highest prestige because it was established by the government to produce its high technocrats. All posts of professors and associate professors within this elite faculty have been monopolized by its own graduates. This is typical of how completely academic mobility is blocked at the top of the institutional hierarchy.

Degreeocracy has developed in societies which value achievement more than ascription. In Japan, university diplomas or degrees have become the most important means to measure achievement. Though it is an adoption of the concept of modern rationalism, achievement came to transform itself into ascription after the eighteen-plus. After that time one's evaluation depends on the name of institutions to which he belongs or from which he graduates rather than achievement or merit, because academic nepotism, a form of degreeocracy, is working strongly. The academic structure characteristic of an institutional hierarchy is highly correlated with academic nepotism in the

degreeocratic society.

2.) One of the indexes of academic nepotism is market share. As some comparative studies indicate, most market shares are occupied by a few universities in Japan, while in the United States market share is not monopolized by a single or a few universities but divided among many competitive universities. This difference results in differences of academic stratification, the former having an institutional hierarchy with a single peak and the latter having one with several peaks.

It is undeniable that the American academic marketplace has a sort of closed pattern because it is controlled collectively by ten or twenty major universities and especially the most competitive universities, but the content and extent is considerably different from that of Japan, as shown in the inbreeding ratio, the other index of academic nepotism. For example, in the graduate departments of sociology in the universities ranked in the top-twelve in market share in the United States, the inbreeding ratio remains less than twenty percent on the average, while in Japan the figures are fifty-plus percent. These differences result from the fact that the former institutionalizes academic mobility among universities and sectors, while the latter does not. That is not to say that no academic mobility occurs in Japan. Certainly it occurs, but it is a kind of vertical mobility between independent universities and less independent universities. The lack of horizontal mobility is caused by the institutional hierarhcy.

3.) The pattern of academic structure affects the development of academic research. Academic productivity is high among scholars graduated from universities ranked at the top of the institutional hierarchy, and are recruited in the graduate schools in Tokyo and other large cities. In the closed academic structure, the graduates of the top universities are in the

most advantageous position for placement of such posts. Accordingly, their academic productivity is apt to become prominent. On the other hand, the graduates of the universities other than the top universities are also productive when they are recruited in the equivalent posts. In this context, the introduction of academic structures which effectively open opportunities for graduates of other major and minor universities would surely contribute to promote their academic productivity and hence the standard of academic research throughout the country.

According to our international comparisons of the standards of academic research, the present situation in Japan leaves something to be desired; it is inadequate compared to some countries, especially the United States. This inadequacy is largely the result of the closed academic structure. Adaptation of new, flexible academic structures, therefore, are necessary to improve the situation. Horizontal as well as vertical academic mobility would be encouraged by limiting inbreeding ratios as much as possible within the major universities.

FOOTNOTES

1. Such traits of American higher educational systems are discussed in the following books: Burton R. Clark and Ted I. K. Youn, Academic Power in the United States, Washington, D.C.: The American Association for Higher Education, 1976, pp. 14-15; and Joseph Ben-David, Trends in American Higher Education, Chicago: The University of Chicago Press, 1972.

2. Ikuo Amano, "Kokuritsu Daigaku" (National Universities), in Nihon no Koto Kyoiku (Higher Education in Japan) edited by Yoshihiro Shimizu, Daiichihoki Publishing Co., 1968, p. 192. In 1946, there were 276 national schools of higher education, including 7 imperial universities, 11 national universities, 26 higher schools, 5 preparatory divisions, 87 technical schools, and 7 higher normal schools. Ibid., p. 196.

3. Katsuya Narita, System of Higher Education: Japan, International Council for Educational Development, 1978, pp. 22-24. Cf. Donald F. Wheeler, "The Structure of Academic Government in Japan", Yale Higher Education Program Working Paper, YHEP-9, 1976, pp. 5-12. In 1976 the numbers of institutions which belong to these six types are as follows: Type 1, 46 (18 national, 2 public, and 26 private); Type 2, 173 (49, 16, and 108); Type 3, 204 (16, 15, and 173); Type 4, 511 (31, 47, and 433); Type 5, 65 (54, 4, and 7); Type 6, 894 (46, 28, and 820). Calculated from Ministry of Education, Monbu-tokei-yoran (Handbook of Educational Statistics), Showa 52 nenban, 1977, and the Ministry of Education, Zenkoku Daigaku Ichiran (The View of All Colleges and Universities), Showa 52 nendo, 1977, p. 367.

4. Katsuya Narita, op. cit., pp. 66-67.

5. Burton R. Clark, "Academic Coordination", Yale Higher Education Research Group Working Paper, YHERG-24, 1978.

6. The earliest beginning of Tokyo Daigaku lies in the Tenmon-kata (Astronomy Office) established by Bakufu in 1684, becoming successively the Bansho Wakai Goyo (Office for the Interpretation of Barbarian Books), The Yogakusho (Institute for the Investigation of Western Books), and Daigaku Nanko. See Michio Nagai, Higher Education in Japan, Tokyo: University of Tokyo Press, 1971, p. 22.

7. In 1943, out of 49 universities, 19 were national, 2 public, and 25 private and the proportion of the private sector was 57.1%. In 1976, out of 423 universities, 83, 33, and 307, respectively, and the proportion of the private sector was 72.6%. Incidentally, there were 104,699 university students in 1943, of which 42,847 were national, 1,343 public, and 60,509 private. The proportion of private university students was 57.8%. In 1976, out of 1,791,786 university students, 372,490 were national, 51,500 public, and 1,367,796 private. The proportion of the private sector was 76.3%. Calculated from Monbusho, Monbu-tokei-yoran, op. cit., and Monbusho, Gakusei-100nenshi, Shiryo-hen, Teikoku-chihogyoseigakkai Publishing Company, 1972.

8. Ronald S. Anderson, Education in Japan: A Century of Modern Development, Washington, D.C.: U.S. Department of Health, Education, and Welfare, Office of Education, 1974, p. 54.

9. In contrast, in the case of the United States, some private universities were established earlier than state universities and have developed strongly, even though these private universities had the characteristics comparable to the state universities in their early stage. Cf. John S. Whitehead, "The

Origins of the Public-Private Distinction in American Higher Education: A Story of Accidental Development", Yale Higher Education Research Group Working Paper, YHERG-19, 1977.

10. Tetsuya Kobayashi, Society, School and Progress in Japan, Pergamon Press, 1976, p. 23.

11. Shigeru Nakayama, Teikoku Daigaku no Tanjo (Birth of the Imperial University), Chuokoronsha Publishing Co., 1978, p. 140.

12. The term of "degreeocracy" was first used by O.E.C.D. examiners. See O.E.C.D., Reviews of National Policies for Education: Japan, 1973.

13. Herbert Passin, Society and Education in Japan, New York: Teachers College Press, Columbia University, 1965, p. 128.

14. Sandei Mainichi Journal, May 29th, 1977, pp. 18-19.

15. Ronald Dore, Diploma Disease: Education, Qualification and Development, Berkeley: University of California Press, 1976.

16. Akira Arimoto,"Gaikokuni okeru Gakubatsu" (Academic Nepotism in the Foreign Countries) in Gakubatsu (Academic Nepotism) edited by Michiya Shimbori, Tokyo: Fukumura Publishing Co., 1974, pp. 238-241.

17. Koya Azumi, Higher Education and Business Recruitment in Japan, New York: Teachers College Press, Columbia University, 1969, pp. 32-38.

18. "Hensachi" or the standard deviation is the technical term which is used to indicate one's possibility of passing the entrance examinations based on his marks in subjects in pseudo-entrance examinations held by some examination oriented industries. According to data in 1977, for example, hensachi of the

faculty of medicine in various universities are as follows: Todai and Keio (77), Kyodai (75), Tokyo Medical (74), Osaka and Kyushu (73), Nagoya and Jichi Medical (72), Tohoku (71), etc. Shukan Asahi Journal, February 4, 1977, pp. 139-141.

19. Herbert Passin, op. cit., p. 125. Yoshio Hara and Masakazu Yano, "Jinzai no Dokusen; Kigyo to Daigaku" (The Monopoly of Manpower; Business and Universities), Kikan Chuokoron Keieimondai Kakigo, June, 1975.

20. Michiya Shimbori and Akira Arimoto, "Daigakukyoju no Keirekigata no Kokusaihikaku" (An International Comparison of Career Patterns of College Professors), Shakaigaku Hyoron (Japanese Sociological Review), Vol. 19, No. 3, 1969.

21. Michiya Shimbori, Nihon no Daigakukyoju-shijo (Academic Marketplace in Japan), Tokyo: Toyokan Publishing Co., 1965, p. 49.

22. Ibid., pp. 52-54.

23. These data were taken from Zenkoku Daigaku Shokuinroku (The List of Personnel in all Japanese universities), Kojunsha Publishing Co., 1975.

24. Based on Zenkoku Daigaku Ichiran (The View of all Colleges and Universities), Monbusho Daigaku-kyoku Daigaku-ka, 1975.

25. These figures were calculated from Zenkoku Daigaku Shokuinroku, op. cit.

26. George W. Pierson, The Education of American Leaders, New York: Praeger Publishers, 1969.

27. They occupied 85% of the posts within those top 12 universities, 47% within the next 10 universities, 44% within AGC universities, 31% within other

universities, and 44% within the best colleges. Bernard Berelson, Graduate Education in the United States, New York: McGraw-Hill Book Co., 1960, p. 115.

28. Michiya Shimbori, op. cit., p. 84.

29. Calculated from Zenkoku Daigaku Shokuinroku, op. cit.

30. In 1976, for example, of 3,082 who finished doctoral courses in various fields, 916 belonged to this category. Accumulative excess-doctors were supposedly about 3,500. See Monbusho, Monbu-tokei-yoran, op. cit., p. 159.

31. Ikuo Amano, "Nihon no Academic Profession; Teikoku Daigaku niokeru Kyojushudan no Keisei to Kozasei" (A Study on Japanese Academic Profession; Formation of the Faculty and the Chair System in the Imperial University), Daigaku Kenkyu Note, No. 30, Research Institute for Higher Education, Hiroshima University, 1977. See also, Masao Terasaki, "Kozasei no Rekishiteki Kenkyu Josetsu (1)" (An Historical Review on Koza-sei in Japanese Universities), Daigaku Ronshu, No. 1, Research Institute for Higher Education, Hiroshim University, 1973.

32. Calculated from Zenkoku Daigaku Shokuinroku, op. cit.

33. Ibid.

34. In the case of full professors the inbreeding ratio has an inclination of increase even in the United States, but it is considerably low: i.e., Chicago 57.1%, Michigan 44.4%, Harvard 25.0%, Colunbia 25.0%, Ohio State 21.4%, North Carolina 20.0%, etc. The average is 20.0% in the United States, while it is 56.7% in Japan.

35. Kenneth D. Roose and Charles J. Andersen, A Rating of Graduate Programs,

Washington, D.C.: American Council on Education, 1970.

36. Akira Arimoto, "Beikoku no Daigaku Kyojushijo no Tokushitsu" (A Study of the Characteristics of Academic Marketplace in the United States), Daigaku Ronshu, No. 6, Research Institute for Higher Education, Hiroshima University, 1978, pp. 25-51.

37. See, for example, Joseph Ben-David, Centers of Learning, New York: McGraw-Hill Book Co., 1977.

38. Michiya Shimbori, op. cit., pp. 116-169.

39. Akira Arimoto, "Kyoiku Shakaigaku Kenkyusha no Keirekigata no Ichikosatsu" (A Study on the Career Patterns of Educational Sociologists), Nihon Kyoikushakai-gakkai Happyoyoshi Shuroku, 1975.

40. Barbara B. Burn, Philip G. Altbach, Clark Kerr, and James Perkins, Higher Education in Nine Countries, New York: McGraw-Hill Book Co., 1971, pp. 248-249.

41. According to a nation-wide survey in 1971, there were 3,791 students who entered doctoral courses, of which only 7% came from other institutions. Yasumasa Tomoda, "Tokei karamita Nihon no Daigakuin" (Post-war Trends and Problems of Japanese Graduate Education), Daigaku Ronshu, No. 2, Research Institute for Higher Education, Hiroshima University, 1974.

42. Joseph Ben-David, op. cit.

43. William K. Cummings, Nihon no Daigaku Kyoju (Japanese University Professors), Tokyo: Shiseido Publishing Co., 1972, p. 340.

44. Out of 317 Nobel laureates awarded in these fields, 1901-1975, 115 or 36.3% were American, followed by English, 59 (18.6%), German, 47 (14.8%),

French, 21 (6.6%), Swedish, 12 (3.8%), Russian, 10 (3.2%), ... Japanese, 3 (1.0%). In the proportion of laureates to a million population, Sweden is 1.47, followed by Denmark, 1.39, Switzerland, 1.23, the United Kingdom, 1.05, Austria, 0.93, Germany, 0.76, The Netherlands, 0.59, the United States, 0.54, France, 0.40, ... Japan, 0.027. See Akira Arimoto, "Beikoku no Daigaku Kyojushijo no Tokushitsu", op. cit.

45. Coincidentally, the sociological study of scientific research community and its various problems, which has developed to a considerable degree in Western Europe and the United States, has not developed almost at all so far in this country; and so, in this context, the "sociology of science" seems to be necessary to develop if we want to make a more detailed analysis of the present situations and to have a concrete perspective of improvement. Cf. Bernard Barber and Walter Hirsch (eds.), The Sociology of Science, New York: The Free Press of Glencoe, 1962; Joseph Ben-David, The Scientist's Role in Society, Englewood Cliffs, N.J.: Prentice-Hall, 1971; Robert K. Merton, The Sociology of Science: Theoretical and Empirical Investigations, ed. Norman Storer, Chicago: University of Chicago Press, 1973; Jonathan R. Cole and Stephen Cole, Social Stratification in Science, Chicago: University of Chicago Press, 1974; Harriet Zuckerman, Scientific Elite: Nobel Laureates in the United States, New York: The Free Press, 1977; Ina Spiegel-Rösing and Derek de Solla Price (eds.), Science, Technology and Society: A Cross-Disciplinary Perspective, London and Beverly Hills: Sage Publications, 1977.

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